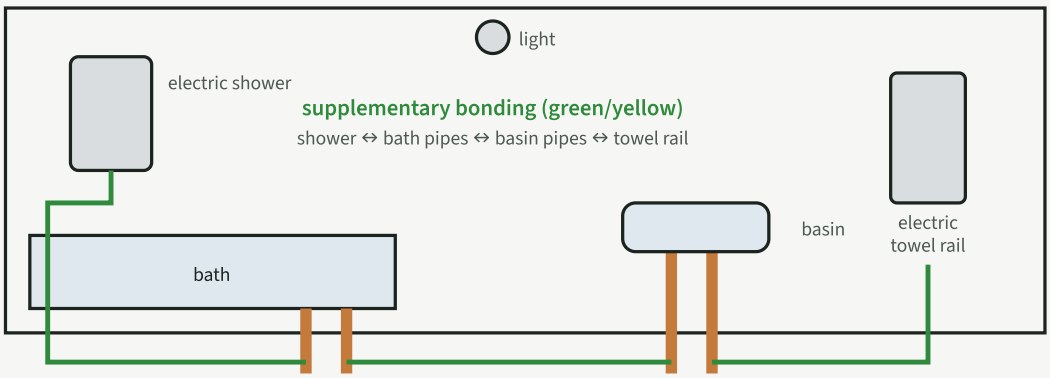
SUPPLEMENTARY BONDING IN BATHROOMS

DOES EVERY BATHROOM STILL NEED SUPPLEMENTARY BONDING?

Supplementary bonding links exposed and extraneous conductive parts **locally**, e.g. the metal pipes under a bath to a metal shower, so they stay at the **same potential**. You'll often see it as a loop of green/yellow between copper pipes, such as at a boiler. Somewhere along those pipes, a main bonding conductor goes back to the MET.



Supplementary bonding is a real pain to install, because every metal pipe connection needs linking. It's rarely installed now, because it can be **left out** when the three conditions below are met.

Supplementary bonding may be omitted in a room with a bath or shower (BS 7671 **701.415.2**) if **all three** are met:

1. All final circuits in the location meet **automatic disconnection of supply (ADS)**: a CB within the Table 41.1 time (0.4 s TN, 0.2 s TT), a 30 mA RCD within 300 ms.
2. All final circuits in the location have **additional protection by a 30 mA RCD**.
3. All extraneous conductive parts are **effectively connected to the main protective bonding** (back to the MET).

BS 7671 · Section 701: locations containing a bath or shower — starts **p.257**

BS 7671 · **Reg 701.415.2** supplementary bonding, and when it may be omitted · **p.258**

SUPPLEMENTARY BONDING CONDUCTOR SIZES

This depends on what you're linking and whether the conductor is **mechanically protected**, e.g. in conduit. A single-core green/yellow conductor

has only one layer of insulation. The grey sheath on twin and earth *is* mechanical protection, and an RCD is **additional** protection, not mechanical.

WORKED EXAMPLE

CPC of the circuit feeding the exposed part = 10 mm²
Link: electric shower (exposed part) → pipes under the bath (extraneous part)
Not mechanically protected → 6 mm² (still 6 mm² if protected)
Exposed part → exposed part, both mechanically protected with 10 mm² → 10 mm²

Electrician's Guide to the Building Regs · 3.3.3 Supplementary bonding conductors · Table 3.3.3 sizes · **p.62**

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